IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1-8. (Cancelled).

9. (Previously Presented) A display device comprising:

a liquid crystal display layer which comprises an array of pixels arranged in a matrix and forms an image to be displayed; and

a light reflecting optical film which is arranged on a rear surface of the liquid crystal display layer, on substantially identical curved lines having a sector of a circle shape, the curved lines being separated at regular intervals, each interval having a horizontal component and a vertical component, and comprises an array of diffraction grating cells arranged in a matrix, each cell comprising blazed type or binary type curved gratings having the same profile and arranged in parallel,

wherein each side of each diffraction grating cell measures between about 5 μm and about 300 μm, and

wherein said diffraction grating cells are located at positions corresponding to the pixels.

10. (Previously Presented) The display device according to claim 9, wherein said gratings of different grating cells contain different profiles.

11. (Cancelled).

12. (Previously Presented) The display device according to one of claims 9 or 10, wherein said gratings of each of the grating cells include at least two grating pitches.

13. (Previously Presented) The display device according to one of claims 9 or 10, wherein an angle of a slope of the gratings of different grating cells is uniform.

14. (Previously Presented) The display device according to one of claims 9 or 10, wherein a surface of said diffraction grating cells of each of the grating cells is provided with a reflection layer.

15-17. (Cancelled).

18. (Previously Presented) The display device according to one of claims 9 or 10, wherein

said liquid crystal display layer comprises an array of pixels arranged in a matrix; and

a pitch of said array of diffraction grating cells is an integral multiple of a pitch of said array of said pixels or vice versa.

19. (Previously Presented) The display device according to one of claims 9 or 10, wherein each of the gratings of each of the grating cells has a gentle slope and a steep slope in a cross section and the gentle slope is directed to above a display screen of said display device.

20. (Previously Presented) A display device comprising:

a liquid crystal display layer which comprises an array of pixels arranged in a matrix and forms an image to be displayed; and

a light transmission optical film which is arranged on a front surface of the liquid crystal display layer on substantially identical curved lines having a sector of a circle shape, the curved lines being separated at regular intervals, each interval having a horizontal component and a vertical component, and comprises an array of diffraction grating cells arranged in a matrix, each cell comprising blazed type or binary type curved gratings having the same profile and arranged in parallel,

wherein each side of each diffraction grating cell measures between about 5 μm and about 300 μm, and

wherein said diffraction grating cells are located at positions corresponding to the pixels.

21. (Previously Presented) The display device according to claim 20, wherein said gratings of different grating cells contain different profiles.

22. (Cancelled).

23. (Previously Presented) The display device according to one of claims 20 or 21, wherein said gratings of each of the grating cells include at least two grating pitches.

24. (Previously Presented) The display device according to one of claims 20 or 21, wherein an angle of a slope of the gratings of different grating cells is uniform.

25. (Cancelled).

26. (Previously Presented) The display device according to one of claims 20 or 21, wherein

said array of diffraction grating cells and said array of pixels show a one-to-one correspondence.

27. (Previously Presented) The display device according to one of claims 20 or 21, wherein

said liquid crystal display layer comprises an array of pixels arranged in a matrix; and

a pitch of said array of diffraction grating cells is an integral multiple of a pitch of said array of said pixels or vice versa.

28. (Previously Presented) The display device according to one of claims 20 or 21, wherein each of the gratings of each of the grating cells has a gentle slope and a steep slope in a cross section and the gentle slope is directed to above a display screen of said display device.

29-40. (Cancelled)

41. (Previously Presented) A display device comprising:

a liquid crystal display layer which comprises an array of pixels arranged in a matrix and forms an image to be displayed; and

a light reflecting optical film which is arranged on a rear surface of the liquid crystal display layer on substantially identical curved lines having a sector of a circle shape, the curved lines being separated at regular intervals, each interval having a horizontal component and a vertical component and comprises an array of diffraction grating cells arranged in a matrix, each cell comprising curved gratings having the same profile and arranged in parallel,

wherein said gratings of each of the grating cells include at least two grating pitches,

wherein each side of each diffraction grating cell measures between about 5 μm and about 300 μm, and

wherein said diffraction grating cells are located at positions corresponding to the pixels.

42. (Previously Presented) The display device according to claim 41, wherein said gratings of different grating cells contain different profiles.

43-44. (Cancelled).

45. (Previously Presented) The display device according to one of claims 41 or 42, wherein an angle of a slope of the gratings of different grating cells is uniform.

46. (Previously Presented) The display device according to one of claims 41 or 42, wherein a surface of said diffraction grating cells of each of the grating cells is provided with a reflection layer.

47. (Previously Presented) The display device according to one of claims 41 or 42, wherein each of the gratings of each of the grating cells has a gentle slope and a steep slope in a cross section and a surface of the gentle slope is provided with a reflection layer.

48. (Cancelled).

49. (Previously Presented) The display device according to one of claims 41 or 42, wherein

said array of diffraction grating cells and said array of pixels show a one-to-one correspondence.

50. (Previously Presented) The display device according to one of claims 41 or 42, wherein

said liquid crystal display layer comprises an array of pixels arranged in a matrix; and

a pitch of said array of said diffraction grating cells is an integral multiple of a pitch of said array of said pixels or vice versa.

51. (Previously Presented) The display device according to one of claims 41 or 42, wherein each of the gratings of each of the grating cells has a gentle slope and a steep slope in a cross section and the gentle slope is directed to above a display screen of said display device.

52. (Previously Presented) A display device comprising:

a liquid crystal display layer which comprises an array of pixels arranged in a matrix and forms an image to be displayed; and

a light transmission optical film which is arranged on a front surface of the liquid crystal display layer on substantially identical curved lines having a sector of a circle shape, the curved lines being separated at regular intervals, each interval having a horizontal component and a vertical component, and comprises an array of diffraction grating cells arranged in a matrix, each cell comprising curved gratings having the same profile and arranged in parallel,

wherein said gratings of each of the grating cells are arranged by at least two pitches,

wherein each side of each diffraction grating cell measures between about 5 μm and about 300 μm, and

wherein said diffraction grating cells are located at positions corresponding to the pixels.

53. (Previously Presented) The display device according to claim 52, wherein said gratings of different grating cells contain different profiles.

54-55. (Cancelled).

56. (Previously Presented) The display device according to one of claims 52 or 53, wherein an angle of a slope of the gratings of different grating cells is uniform.

57. (Cancelled).

58. (Previously Presented) The display device according to one of claims 52 or 53, wherein

said array of diffraction grating cells and said array of pixels show a one-to-one correspondence.

59. (Previously Presented) The display device according to one of claims 52 or 53, wherein

said liquid crystal display layer comprises an array of pixels arranged in a matrix; and

a pitch of said array of said diffraction grating cells is an integral multiple of a pitch of said array of said pixels or vice versa.

60. (Previously Presented) The display device according to one of claims 52 or 53, wherein each of the gratings of each of the grating cells has a gentle slope and a steep slope in a cross section and the gentle slope is directed to above a display screen of said display device.

61. (Previously Presented) A display device comprising:

a liquid crystal display layer which comprises any array of pixels arranged in a matrix and forms an image to be displayed;

a plurality of drive electrodes in proximity to the liquid crystal display layer; and

a light reflecting optical film formed on substantially identical curved lines having a sector of a circle shape, the curved lines being separated at regular intervals, each interval having a horizontal component and a vertical component, and including a plurality of diffraction grating cells arranged in a matrix, each of the diffraction grating cells including at least one of a blazed type and a binary type grating having the same profile and arranged in parallel,

wherein the drive electrodes form the light reflecting optical film,

wherein each of the drive electrodes includes one of the diffraction grating cells,

wherein each side of each diffraction grating cell measures between about 5 μm and about 300 μm, and

wherein said diffraction grating cells are located at positions corresponding to the pixels.